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ABSTRACT

This paper examines various estimates of the Samoan population in the United States and assesses their relation to 1980 census data. Because Samoans were enumerated for the first time as a separate group, because there are no national records of Samoan births and deaths, and because there are no data on migration to the United States or movement back and forth between the United States and Samoa, estimates vary considerably. The 1980 census counts are compared with other estimates using demographic methods which can provide an estimate of the coverage error. A base population for the United States is established and census data from American Samoa, Western Samoa and New Zealand are combined with vital and migration statistics to provide a means of estimating the "expected" Samoan population in the United States in 1980. The discrepancy between the population enumerated in the 1980 census and that estimated by these methods ranges from 4,600 to 8,900, representing percentage differences of from 10 to 17 percent. The 1980 census counted 42,000 Samoans in the United States; the estimated population from this analysis is between 46,600 and 51,000. (Author/CG)

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HOW MANY SAMOANS?
AN EVALUATION OF THE 1980 CENSUS COUNT OF SAMOANS IN THE UNITED STATES

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16. Abstract (Limit: 200 words)

This paper looks at various estimates of the Samoan population in the United States and assesses their relation to 1980 Census data. Because Samoans were enumerated for the first time as a separate group, because there are no national records of Samoan births and deaths, and because ther are no data on migration to the U.S. or movement back and forth between the U.S. and Samoa, estimates vary considerably. The 1980 Census counts are compared with other estimates using demographic methods which can provide an estimate of the coverage error. A base population for the U.S. is established and census data from American Samoa, Western Samoa and New Zealand combined with vital and migration statistics to prvide a means of estimating the 'expected' Samoan population in the U.S. in 1980. The discrepancy between the population enumerated in the 1980 Census and that estimated by these methods ranges from 4,600 to 8,900, representing percentage differences of from 10 to 17 percent. The 1980 Census counted 42,000 Samoans in the U.S.; the estimated population from this analysis is between 46,600 and 51,000.

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In a June, 1983 article in Time magazine about new immigrants, an estimate of 60,000 Samoans in southern California was given (Andersen 1983:18-25). Since the 1980 census only recorded 42,000 Samoans in the whole United States, and about 10,000 in Southern California, if the estimate in Time were correct, and was obtained through accepted survey methods, the Census Bureau would have missed about 5 in every 6 Samoans in southern California, and if similar populations in the rest of the country were similarly missed, at least 100,000 Samoans would have been expected to be enumerated in the country as a whole.

However, since Samoans were enumerated for the first time as a separate group in the 1980, previous figures could only be estimates, and estimates which were of necessity based on little data. Hawaii is the only state which records births and deaths of Samoans in the United States. There are no data at all on migration to the United States, or on movements back and forth between the United States and Samoa. Therefore, the estimates vary considerably, depending on who is making the estimate, and the reason for the estimate. During the 1970s and 1980s estimates of Samoans in the United States varied from Park's (1979:27) figure of about 20,000 for 1971 to more than 70,000 estimated by Rolff (1978:58) and Takeuchi (1983) (Table 1). Although some of the assumptions used to obtain the estimates are given by some of the authors, no one has systematically looked at the data from the various statistical sources, to assess the validity of the various estimates. This paper will look at the various estimates of the Samoan population in the United States, and assess their relationship to the 1980 census data.

PREVIOUS ESTIMATES

The 1920 United States census counted six Samoans, all in California and all but one foreign-born (U.S. Bureau of the Census, 1933:59). The same number was again enumerated in 1930, but all were "native born", two were in Utah and four in California. The category "Samoan" did not reappear in United States census tabulations until 1980. During the intervening period, estimates of the number of Samoans in the United States were little more than approximations based on a limited supply of poor quality migration statistics, some community-level studies and the assessments of community leaders. The 1980 census therefore provided the first actual count of Samoans in fifty years, and was the first census to describe the demographic and socio-economic characteristics of this immigrant group.

Of the 41,948 Samoans enumerated in the United States in 1980, the largest concentrations were in California (20,098), Hawaii (14,073), Washington (1,830), and Utah (763), but Samoans were found in every state and the District of Columbia (U.S. Bureau of the Census, 1983:125). These figures refer to those who identified themselves as Samoan on the "race" question asked of all persons. Similar numbers of individuals were reported of Somoan ancestry and speakers of Samoan language, items which were asked only on a sample basis.

The total number of Samoans differs with many of the estimates made by social scientists and others during the past decade. Estimates for the United States ranging from 20,000 in 1971 (Park 1979:27) to 59,000 in 1973 (Lewthwaite, Mainzer, and Holland, 1973:155) have been suggested for the early 1970s. A U.S. Department of Health, Education, and Welfare

report estimated 37,000 Samoans in Los Angeles county alone in 1977 (Franco 1978:262), and numbers as high as 90,000 have been presented for the state of California in 1978 (Macpherson et al, 1978:247-249). A fairly comprehensive historical review of population data on Samoans in Hawaii was prepared by the Hawaii Department of Planning and Economic Development after the 1970 census (1973). Some selected estimates of the number of Samoans in the United States, Hawaii and California between 1929 and 1983 are show in Table 1.

/Table 1 about here/

This paper compares the 1980 census count of Samoans in the United States with other estimates using demographic methods. Because of limitations of time, money, methods and skills, sub-components of a population may not have complete coverage in a census, but demographic methods can provide an estimate of the coverage error. The term "error" is used in this context refers simply to the difference between two sources of information, neither of which may provide the true number. Also, since certain assumptions must be made in determining an estimate for a population, different sets of assumptions provide different estimates of the population size.

Furthermore, the number of persons in any particular ethnic or "racial" category will depend on the definition employed. Data on Samoans in this paper are derived from the "race" question which was asked of all persons. The concept of race used by the Census Bureau is based on self-identification, that is, the individuals classify themselves according to the race with which they identify. In this sense, race does not denote any clear-cut scientific definition of biological stock and no attempt is made to distinguish number of generations or degree of affiliation.

EVALUATION METHODS

Shryock and Siegel (1975:105) divide the standard methods for evaluating census coverage fall into six general categories: (1) reenumeration; (2) comparison of successive censuses; (3) consistency checks within a single census; (4) checks against independent aggregates; (5) matching against individual records; and (6) post-enumeration sample survey. The first method is obviously ruled out. Since Samoan was not included as a separate category in 1970, the method of intercensal comparison cannot be applied either. Internal consistency within the enumerated population has been checked and reported elsewhere (Hayes and Levin, 1983) Comparison with such independent aggregates as church records is a plausible procedure in areas of high Samoan concentration, but the high rates of circular mobility between Samoa, Hawaii, and the United States mainland would make the method unreliable unless severe statistical controls were maintained. It is unlikely that such a method could be applied on a national basis. In those areas where survey data are available, census and survey data can be compared, and the possibility of such an approach is being explored. The longer the time which has elapsed between the census and the survey, however, the more unreliable this method is. Post-enumeration surveys have, of course, been conducted by U.S. Census Bureau (Passel et al., 1983), but the Samoan population is too small to be identified as a separate group.

Applied demographic analysis using census data and vital statistics from a variety of sources must be used to evaluate the number of Samoans in the United States. Although Samoans were not treated as a separate category in 1950 through 1970 U.S. censuses, they have been counted in American Samoa, Western Samoa and New Zealand, the other major centers of Samoan population since about 1900. Very few Samoans live outside these four

locations, but small groups are likely in Tonga, Fiji, and possibly Australia. If a base population in the United States could be established, census data from the other three locations in combination with vital and migration statistics would provide a means of estimating the "expected" Samoan population of the United States in 1980. The difference between the estimated and enumerated population will then be determined.

ESTABLISHING A BASE POPULATION

Although at least six Samoans were on the United States mainland in 1920, the migration history of Samoans prior to World War II is poorly documented. Movement to Hawaii and California started during World War I (Lewthwaite, Mainzer, and Holland 1973:134), but adventurous sailors probably were visiting Pacific ports as early as the 1840s and became absorbed into local populations. The nucleus of the Samoan population in Hawaii was formed in the 1920s from three groups: five or six families numbering 33 persons in 1925 who settled in Laie village of Oahu, an unknown number of entertainers who stayed in Hawaii after touring the United States, and between 50 and 60 released prisoners who chose not to return to Samoa (Alailima 1982:105; Born 1968:456). It is not known, of course, how many of these persons eventually returned to Samoa or later migrated to California or other places. If the broadest assumption of no subsequent return migration is accepted, there were 100 to 200 Samoans in Hawaii by the mid-1920s, but many of these may have been absorbed into the local Hawaiian population (Alailima 1982:108). Samoan immigration to Laie slowed in the 1930s and "totally ceased" during World War II (Stanton 1978:273).

Although between November 1947 and March 1950 letters of identity were issued to 474 American Samoans intending to travel to the United States (Lewthwaite et al., 1973:134), an unknown number actually made the journey. The 1950 census reported 463 residents of Hawaii who were born in American Samoa (U.S. Bureau of the Census, 1953:18), but gave no indication of the total Samoan population by race. While some researchers have accepted 463 as the total Samoan population in 1950, this figure does not account for the Hawaii-born children of earlier migrants. Again, making liberal assumptions by assuming a 1925 population of 100 and a 2 percent annual growth rate, there would have been an additional 63 Hawaii-born Samoans by 1950, not counting children born to new migrants. We have therefore used 526 (463 + 63) as the lower bound of the Samoan population in 1950.

Establishing a median level and upper bound is more difficult, however. We have arbitrarily used 300 and 500 to represent the medium and upper limits of the Samoan population in 1925. To obtain an estimate of the 1950 population, since it was clear that there was almost no migration during the period, we assumed, again, completely arbitrarily, that immigration continued at the rate of 10 migrants per year from 1925 to 1930, slowed to 5 per year during the Depression and World War II and increased again to 40 per year from 1946 to 1950. It was further assumed that the natural growth rate in the United States and Hawaii was the same as observed in American Samoa during the period: 1.8 percent from 1925 to 1930 and 2.4 percent thereafter (Park, 1979:15-20). These calculations result in a medium estimate of 900 and an upper limit of 1200 Samoans in Hawaii in 1950.

Other than the 1920 census figure already mentioned, little is known about the pre-World War II Samoan population on the United States mainland. According to Lewthwaite et al. (1973:134), a Samoan "community" was "seemingly" established in California during World War I, but they cite no location, numbers, or source. No information has been found showing a larger migration flow to the mainland than to Hawaii prior to the 1950s, so Hawaii-resident Samoans were probably the majority at least until 1950. For the sake of argument, however, we have assumed two different distributions for 1950: (1) three-quarters of all Samoans were in Hawaii with the balance on the mainland; and (2) an equal distribution between the two locations.

Table 2 shows the results when these distributions are combined with the low, medium, and high estimates for Hawaii in 1950. For ease of computation, however, the two middle pairs have been averaged as shown in table 2, reducing the number of estimates of the total Samoan population to four: 700, 1,100, 1,700, and 2,400. The estimate 1,100 means either that the population was equally distributed between Hawaii and the United States mainland with approximately 550 in each location, or that it was distributed 75:25 with 800 in Hawaii and 300 on the mainland. Similarly, the number 1,700 means either 850 were in each location or, on the basis of a 75:25 distribution, 1,300 were in Hawaii and 400 on the U.S. mainland.

/ Table 2 about here /

RECONCILIATION OF CENSUS, NATURAL GROWTH, AND MIGRATION DATA

To obtain the total Samoan population in all locations for which we have data, the combined total for Hawaii and the mainland must be

added to the populations of American and Western Samoa, and the Samoan population of New Zealand. Since the total populations of American and Western Samoa have been used in this analysis rather than only the Samoan population, a small number of non-Samoan residents will be included. Because births and deaths are not reported by race or ethnicity in either Western or American Samoa, migration has been estimated for the total population. A significant outflow of non-Samoans from either location would tend to overstate Samoan emigration to the United States.

Since the populations of Western Samoa and New Zealand were enumerated on September 25, 1951, 18 months after the American Samoa and the United States censuses, an intercensal adjustment has been made by adding migration and natural increase for the period April 1, 1950 to September 25, 1951.

As McArthur has reported (1968:144-45), there was net emigration from American Samoa during the intercensal period April 1, 1950 to September 25, 1956 of approximately 3000. McArthur estimated that about 1000 of these went to Western Samoa and fewer than 2000 migrated from the Samoan islands. This estimate is consistent with figures supplied by the Naval Administration of American Samoa which indicate that 1,987 Samoans left the islands between May 3, 1950, and June 30, 1956 (Lewthwaite et al, 1973:136). If emigration was evenly distributed throughout the 1950-56 period, the total net outflow during the 18 months between censuses of 1950 (American Samoa) and 1951 (Western Samoa) would be 462.

Table 2 shows the results when immigration of 462 persons is combined with each of the four previously obtained estimates of the 1950 population and natural increase of 3.5 percent annually, the rate observed in American Samoa in the 1950-56 period (Park, 1979:15-20), but which might be high for the resettled population. The September, 1951 Samoan population of the United States ranges from 1,200 to 3,000 depending on which of the proposed estimates of the 1950 population is accepted. To obtain the September 25, 1951 population of American Samoa, emigration of 462 was subtracted from the 1950 census total of 18,397 and 18 months natural increase was added (also at an annual rate at 3.5 percent), resulting in a population of 19,445. Table 3 combines the four estimates of the Samoan population in the United States from Table 2 with the adjusted population of American Samoa, the population of Western Samoa, and the Samoan population of New Zealand.

/Tables 2 and 3 about here /

These initial estimates for 1951 can be used to obtain later estimates of the population of Samoans in the United States for any subsequent year by adding immigration and births and subtracting deaths. If P_0 represents the 1951 population, subsequent populations (P_n) can be obtained by the formula:

$$P_n = P_0 + (B - D) + M$$

where B = births, D = deaths, M = net migration, and n = years.

Since birth and death statistics for the total Samoan population in the United States are unavailable, natural increase must be estimated. The procedure used here for the period 1951-1965 was to apply the same birth and death rates as were observed by Park (1979:15-20) in American Samoa during the same period. This method tends to overstate the number of births since migrants tend to have lower fertility than non-migrants.

For the period from 1965 to 1980, fertility estimates derived from the application of the "own children" method to the 1980 census data for Samoans in the United States were applied (Levin and Retherford, 1983). While this analysis shows a decline of about one-third in the total fertility rate (from 5.9 to 4.0) between 1966 and 1979, the crude birth rate was still 35 per 1,000 in 1979 because of the very young age of the population. A constant birth rate of 0.035 was therefore used throughout the period 1968-80 (0.037 for the period 1965-67) on the assumption that declining total fertility is not yet reflected in the crude birth rate. Assuming a crude death rate of 0.005, the rate of natural increase would have been 3.0 percent throughout this period. The crude death rate (CDR) in American Samoa was 0.0049 (4.9 per 1,000) in the 1973-75 period (Park 1979:20). For Samoans in Hawaii the CDR was 4.8 per 1,000 in 1975 (Nordyke, 1979) and we have estimated a CDR of 5.2 per 1,000 in 1980 (Hayes and Levin, 1983) Thus a CDR of 0.005 is probably reasonable for the 1965-80 period.

The calculation of net migration is more complicated. A continuous series of annual migration statistics for the 1951-1980 period is unavailable either from the American Samoa or United States end of the migration stream. Consequently, net migration must be estimated using indirect intercensal methods. If American Samoa were the only source of Samoan migrants to the United States, this would be a relatively straight forward matter. But many migrants originate from Western Samoa, spending varying periods of time in American Samoa before moving on the United States. Even if few Western Samoans emigrated to the United States, the continuous inflow to American Samoa would tend to conceal the outflow of American Samoans to the United States.

If the total population of Samoans in Samoa, the United States and New Zealand is treated as a closed system, that is, there is no in- or outmigration, Samoan migration to the United States can be estimated, but some strong assumptions must be made. First, it must be assumed that those Western Samoans who did not emigrate to New Zealand either migrated to American Samoa or entered the United States directly. Second, all those Samoans who emigrated from American Samoa must be assumed to have migrated to Western Samoa, entered New Zealand directly, or entered the United States. These assumptions rule out Samoan migration to other Pacific Islands or anywhere else. While these are unrealistic assumptions, the error they produce will probably be small, and the result will be to overstate immigration to the United States rather than to understate it. The immigration of Tongans, Tokelau islanders, and other Pacific Islanders during the 1951-80 period has not been taken into account, but this movement should offset the error produced by not taking account of Samoan emigration elsewhere in the world.

Table 4 presents a summary of the net intercensal migration estimates for American and Western Samoa and New Zealand during the 1951-81 period. Detailed calculations are shown in tables 5 and 6. The Samoan estimates are based on the "vital statistics" method represented by the balancing equation:

$$M = (P_1 - P_2) - (B - D)$$

The Western Samoa vital statistics shown in table 5 have been adjusted for underregistration; the likelihood of migration being understated is extremely small. American Samoa vital statistics have not been adjusted since they were believed to be 95 percent complete from 1951 to 1972

(Park, 1972:27), and coverage has more than likely improved in the last decade.

/Tables 4, 5 and 6 about here/

To obtain total Samoan immigration to the United States, Samoan immigration to New Zealand has been subtracted from the total net migration from both Western and American Samoa. New Zealand immigration data were derived from the net balance of Samoan arrivals and departures (Table 7), adjusted to intercensal periods.

/ Table 7 about here /

Since all migration estimates have been adjusted to Western Samoa census dates, it is difficult to check them against other estimates using different dates, but some approximate comparisons are possible. "More than 4000" American Samoans emigrated to the United States between September 25, 1956 and April 1, 1960 (American Samoa, 1960), somewhat below the estimate of 5,805 estimated here for the 1956-61 intercensal period. Koenig (1961:17) estimated net emigration of 5,306 between 1950 and 1960, whereas we obtained the higher figure of 7,850 for the intercensal period 1951-61 (Table 4). By combining vital, census, and departure-arrival data, Lewthwaite, Mainzer, and Holland (1973:146) claimed net emigration of 10,000 for the 1960s, but their estimate was not an exact intercensal one. We obtained 7,250 for the 1961-71 period.

Little comparative information is available for the 1970s, but departure and arrival data for American Samoa are available for 1977 (Pereira, 1978) and indicate net migration of 2,049, close to the average of 1,900 which we have estimated for the 1976-81 period.

Starting from the four estimates of the 1951 population shown in Table 1 and using estimates of migration and natural increase as

described above, the Samoan population of the United States was estimated by single year using the formula:

$$P_2 = P_1 + (0.5\ M) + (B - D) + (0.5\ M)$$

where P_1 = population first year, M = annual migration, B = births, D = deaths and P_2 = population second year. The numbers of births and deaths were obtained by applying crude birth and death rates to the mid-year population $P_1 + (0.5\ M)$. The formula assumes that migration is evenly distributed throughout the year.

RESULTS

Annual population estimates from 1951 to 1980 are presented in Table 8 which also shows the birth and death rates and average annual migration levels employed in the estimates.

/ Table 8 about here /

The differences between the four estimates of Samoans in 1980 and the 1980 census count are summarized in Table 9. The discrepancy between the estimated and enumerated population ranges from 4,600 to 8,900, representing percentage differences of from 10 and 17 percent. Since we have consistently used the most liberal assumptions in making the estimates, and since we have used somewhat arbitrary starting populations in 1950, these differences between our estimates and the actual census figures are not too surprising.

/ Table 9 about here/

Since each estimate employed the same rate of natural increase and immigration, the difference between them reflects the size of the starting population. Thus, the difference of 1,850 between base populations I and

IV in 1951 results in a spread of 4,250 by 1980 and an increase of 8 in the percentage discrepancy. The difference suggests that the starting population would have to be very much higher than we assumed to attain some of the previously suggested estimates.

DISCUSSION AND CONCLUSION

Even the lowest of the 1980 estimates was based on strong assumptions about immigration; more precise migration figures might result in a smaller discrepancy between the census count and the demographic estimates. The estimates used in this analysis implied total immigration of 30,500 Samoans during the 1951-80 period. Although some of these migrants would have died in the meantime, only 22,600 Samoan-born were reported in the census, considerably fewer than expected. On the other hand, 19,350 U.S.-born Samoans were reported, 3,250 more than the 16,100 expected on the basis of our fertility and mortality estimates.

If a rate of 10 percent below the estimates is assumed, the U.S.-born Samoan population would have been 21,300 and the Samoa-born population would be the difference between this figure and the estimated total population of 46,600. The resulting figure of 25,300 is relatively close to what the Samoa-born population would be when adjusted upwards by 10 percent (24,900). It is very likely, therefore, that actual immigration was less than indicated in our estimates, and that natural increase was higher. In absolute terms, approximately 5,200 immigrants would have to be replaced by an equivalent number of U.S.-born, a plausible assumption in light of the very high rate of Western Samoan immigration

estimated for the 1976-80 period. Western Samoa frontier data (Table 7) for American and Western Samoan citizens indicate about 2,400 fewer immigrants in this period than suggested by the vital statistics method. According to the latter estimates, 18,400 Western Samoa-born persons should have been enumerated in the 1980 U.S. census, whereas only 13,200 were.

While it is apparent from estimate IV in table 9 that a 1980 Samoan population of 51,000 cannot be completely ruled out, given the uncertainty about the Samoan population of California in the 1950s, a population of twice this size would require immigration 52 percent higher than we estimated and a constant 4.5 percent annual rate of natural increase, neither of which is supported by evidence. On the other hand, if the immigration and natural growth estimates we have used are accurate, the 1980 Samoan population of the United States could not have reached 100,000 unless the 1951 population was around 23,000. Since the population of American Samoa was only 19,000 in 1950, the possibility of there being 23,000 Samoans in the United States in the following year seems rather remote.

The demographic analysis reported here estimated that with particular starting populations for 1950 and assumptions about natural growth and migration, the Samoan population of the United States in 1980 would have been between 46,600 and 51,000. The 1980 U.S. census counted 42,000 Samoans or from 10 to 17.5 percent below the estimates obtained. These are provisional estimates based on aggregate, not cohort data and relatively unrefined projection methods. Also, the highest estimated difference of 17.5 percent is predicated on a 1951 Samoan population of 3,039 for which there is presently no historical evidence. As more data come to light on the history of Samoans in California and elsewhere on the U.S. mainland more informed estimates will be possible.

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Table 1. Estimates of the Size of the Samoan Population in the United States

Year	United States	Hawaii	California	Source
1929		125		Pierce 1956:20
1950		463		USBCensus 1950:18
1956		1-2,000		Hirsh 1956:1
1960				
1962				
1964-67		2,420		Hawaii Health Surveillance Prog.
1966		7,500		Alailima and Alailima 1966:1
1968				
1970		5-18,000		McCormick 1972:9
			15-20,000	Ablon 1971:329
	20,000			Park 1979:27
		5.5-11,000		Schmitt 1972
1972		12,000		Selle 1972:48
	48,000		23,000[a]	Chen 1973:41
			15-30,000	Lewthwaite et al 1973:133
1975		7,030		OEO 1975 Census Update Survey
	70,000	21,000	51,000	Rolff 1978:58
1976	68,000		37,000	Emery 1976:10
		16,000		McGarvey and Baker 1979:463
1977			20,000[b]	Shu and Satele 1977:7
		5,648		Population Characteristics of Hawaii: 1977
1978		6,000		Markoff and Bond 1980:189
1979		11,520		The State of Hawaii Data Book
1980	40,000-60,000	10,000-12,000	36,000-41,000	Shore 1980
1981		9,357		Hawaii State Dept. of Health
1982		8-18,000		Alailima 1982:105
		12,556		Hawaii State Dept. of Health
1983	73,000	30,000		Takeuchi 1983
			60,000[c]	Andersen 1983

a For Southern California only.
b Los Angeles area only
c Los Angles-Anaheim

Table 2. Estimates of the Total Samoan Population of the United States in 1950 and on September 25, 1951

Assumption	Base Population, Hawaii, 1950	Ratio-Hawaii: Mainland	Population			Estimate, 1950	Natural Increase	Migration	Population 9/25/51
			Hawaii	Mainland	Total				
I	526	75:25	526	175	701	701	37	462	1,200
		50:50	526	526	1,052	1,114	58	462	1,634
II	882	75:25	882	294	1,176				
		50:50	882	882	1,764	1,698	89	462	2,249
III	1,224	75:25	1,224	408	1,632				
		50:50	1,224	1,224	2,448	2,448	129	462	3,039

Natural increase based on annual rate of 3.5 percent

Table 3. Total Estimated and Enumerated Samoan Population: 1951

		Estimate			
		I	II	III	IV
TOTAL	P_5	106,890	107,324	107,939	108,729
United States	P_1	1,200	1,634	2,249	3,039
American Samoa	P_2	19,445	19,445	19,445	19,445
Western Samoa	P_3	84,909	84,909	84,909	84,909
New Zealand	P_4	1,336	1,336	1,336	1,336
Percent Distribution					
TOTAL		100.0	100.0	100.0	100.0
United States		1.1	1.5	2.0	2.7
American Samoa		18.2	18.1	18.0	17.9
Western Samoa		79.5	79.1	78.7	78.2
New Zealand		1.3	1.2	1.2	1.2

Sources: United States, Table 2 this paper; American Samoa, U.S. Bureau of the Census, 1950: ; Western Samoa, McArthur (1968:122); New Zealand, Pitt and Macpherson (1974:119).

Table 3. Total Estimated and Enumerated Samoan Population: 1951

Estimates	Total	United States	American Samoa	Western Samoa	Samoans in New Zealand
I	106,890	1,200	19,445	84,909	1,336
II	107,324	1,634			
III	107,939	2,249			
IV	108,729	3,039			
Percent Distribution					
I	100.0	1.1	18.2	79.5	1.3
II	100.0	1.5	18.1	79.1	1.2
III	100.0	2.0	18.0	78.7	1.2
IV	100.0	2.7	17.9	78.2	1.2

Sources: United States, Table 2 this paper; Park (1979:11); Western Samoa, McArthur (1968:122); New Zealand, Pitt and Macpherson (1974:119).

Table 4. Estimated Samoan Migration to the United States: 1951-1981

Period	American Samoa (1)	Western Samoa (2)	Total (3) (1)+(2)	New Zealand (4)	United States (5) (3)-(4)	Annual Average (6)
1951-56	1,537	2,905	4,442	2,404	2,038	408
1956-61	2,692	5,857	8,549	2,744	5,805	1,161
1961-66	559	6,621	7,180	4,312	2,868	574
1966-71	1,387	7,713	9,100	4,715	4,385	877
1971-76	2,051	15,891	17,942	9,153	8,789	1,758
1976-81	1,273	8,578	9,851	223	9,628	1,926
Total	12,499	47,565	57,064	23,551	33,513	1,117

Sources: Tables 5 and 6. Data for New Zealand from Table 7, adjusted to intercensal period.

Table 5. Estimated net migration, Western Samoa: 1951-81

	Intercensal Period					
	9/25/51 9/25/56	9/25/56 9/25/61	9/25/61 11/21/66	11/21/66 11/ 3/71	11/3/71 11/3/76	11/3/76 11/3/81
First census	84,909	97,327	114,427	131,377	146,627	151,983
Second census	97,327	114,427	131,377	146,627	151,983	158,130
Population increase	12,418	17,100	16,950	15,250	5,356	6,147
Births	18,035[a]	25,627[b]	29,144[b]	27,851[c]	25,780[c]	17,656[c]
Deaths	2,712[a]	2,670[b]	5,573[b]	4,887[c]	4,532[c]	2,934[c]
Natural increase	15,323	22,957	23,571	22,963	21,247	14,772
Estimated migration	-2,905	-5,857	-6,621	-7,713	-15,891	-8,578

Notes: Population increase is the difference between the two census enumerations; Natural increase is the difference between births and deaths; Estimated migration is the difference between population increase and natural increase. The minus sign indicates a decrease.

[a] Assumes 25 percent underregistration.
[b] Based on 24 percent underregistration.
[c] Adjusted assuming 20 percent underregistration.

Sources: Western Samoa, 1969:11; McArthur, 1968:122; Bannister et al, 1978:18-36; Western Samoa, 1974:2; Western Samoa, 1980:5.

Table 6. Estimated net migration, American Samoa: 1950-1980

	Intercensal Period			
	4/ 1/50 9/25/56	9/25/56 4/ 1/60	4/1/60 4/1/70	4/1/70 4/1/80
First census	18,937	20,154	20,051	27,159
Second census	20,154	20,051	27,159	32,397
Population increase	1,217	-103	7,108	5,138
Births	5,172	2,975	9,669	10,959
Deaths	974	581	1,301	1,451
Natural increase	4,198	2,391	8,398	9,509
Estimated migration	-2,981	-2,498	-1,290	-4,371

Notes: Population increase is the difference between the two census enumerations; Natural increase is the difference between births and deaths; Estimated migration is the difference between population increase and natural increase. The minus sign indicates a decrease.

Sources: McArthur, 1968:143; Government of American Samoa, 1971:27-28; Park, 1979:12; Government of American Samoa, 1981.

Table 7. Net Samoan migration to New Zealand and net migration from Western Samoa: 1962-1982

Year	Immigration to New Zealand	Emigration from Western Samoa	
		Samoan Citizens	All Persons
1962	763	(NA)	(NA)
1963	844	(NA)	(NA)
1964	595	(NA)	(NA)
1965	444	(NA)	(NA)
1966	820	1,024	1,243
1967	1,370	396	588
1968	371	3,436	1,476
1969	596	1,655	2,192
1970	1,424	(NA)	2,545
1971	1,085[a]	(NA)	569
1972	1,560	(NA)	1,144
1973	2,047	2,029	3,778
1974	3,225	4,198	4,244
1975	2,635	2,437	2,670
1976	1,214	1,206	1,086
1977	336	3,076	1,287
1978	-140	1,332	3,628
1979	206	490	5,087
1980	56	61	5,229
1981	-454	(NA)	(NA)
1982	105	(NA)	(NA)

(NA) Not available. Minus sign means net emigration from New Zealand

[a] Estimated.

Sources: New Zealand 1981-82:13; Western Samoa 1967-80.

Table 8. Four Estimates of the Annual Samoan Population of the United States: 1951-80

Year	Estimated Population, using Different 1951 bases				Growth Assumptions			
	I	II	III	IV	Net Migration	Birth Rate	Death Rate	Natural Increase
1951	1,200	1,634	2,249	3,039	408	.045	.0093	.0357
1952	1,657	2,106	2,743	3,561	408	.045	.0093	.0357
1953	2,131	2,596	3,255	4,101	408	.045	.0093	.0357
1954	2,621	3,103	3,785	4,661	408	.045	.0093	.0357
1955	3,129	3,628	4,334	5,241	408	.045	.0093	.0357
1956	3,654	4,171	4,902	5,690	1,161	.0436	.0093	.0343
1957	4,959	5,493	6,249	7,063	1,161	.0436	.0093	.0343
1958	6,308	6,859	7,641	8,436	1,161	.0436	.0093	.0343
1959	7,722	8,295	9,105	9,978	1,161	.0436	.0065	.0371
1960	9,189	9,783	10,623	11,528	1,161	.0436	.0065	.0371
1961	10,710	11,325	12,196	13,134	574	.042	.0065	.0355
1962	11,671	12,308	13,210	14,181	574	.042	.0065	.0355
1963	12,666	13,325	14,259	15,265	574	.042	.0065	.0355
1964	13,697	14,379	15,346	16,387	574	.042	.0065	.0355
1965	14,793	15,470	16,470	17,548	574	.037	.005	.0320
1966	15,817	16,545	17,578	18,689	877	.037	.005	.0320
1967	17,211	17,962	19,028	20,174	877	.037	.005	.0320
1968	18,649	19,424	20,524	21,707	877	.035	.005	.030
1969	20,085	20,894	22,026	23,244	877	.035	.005	.030
1970	21,584	22,406	23,573	24,827	877	.035	.005	.030
1971	23,118	23,964	25,166	26,458	1,758	.035	.005	.030
1972	25,592	26,463	27,701	29,031	1,758	.035	.005	.030
1973	28,139	29,037	30,311	31,681	1,758	.035	.005	.030
1974	30,763	31,687	32,999	34,410	1,758	.035	.005	.030
1975	33,465	34,417	35,768	37,221	1,758	.035	.005	.030
1976	36,247	37,227	38,619	40,115	1,926	.035	.005	.030
1977	39,283	40,292	41,725	43,267	1,926	.035	.005	.030
1978	42,409	43,448	44,924	46,512	1,926	.035	.005	.030
1979	45,629	46,699	48,219	49,854	1,926	.035	.005	.030
1980	46,573	47,652	49,186	50,834	...	...	...	...

Note: Census dates used were September 25 for 1951, 1956, and 1961, November 21 for 1966, November 3 for 1971 and 1976 and April 1 for 1980.

Table 9. Estimated Undercount of Samoans in the 1980 United States Census

	Estimated populations, using Different 1951 bases			
	I	II	III	IV
Estimated population, September 25, 1951	1,200	1,634	2,249	3,039
Expected population, April 1, 1980	46,573	47,652	49,186	50,834
Enumerated population, April 1, 1980	41,948	41,948	41,948	41,948
Difference between expected and enumerated	4,625	5,704	7,238	8,886
Percent of expected population	9.90	12.0	14.72	17.48
Implied coverage (percent complete)	90.10	88.00	85.28	82.52
Implied growth rate (average annual percent)	12.97	11.90	10.83	9.85